

IN THE CLAIMS:

1. (currently amended) A collimator comprising:

a pair of first plate ~~members~~ members, each first plate member having X-ray ~~absorbability~~, absorbability and movable in a direction parallel to [[a]] an end surface thereof, and defining each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a spacing space between ~~respective end faces opposed to each other~~ the inner surfaces of the first plate members; and

~~a pair of second plate members each of which has X-ray absorbability, the second plate members, in order to block other X-rays than the X-ray passing through the aperture, being connected at respective one ends by hinges to end portions of the pair of first plate members opposite to the mutually opposed end faces of the first plate members and being supported at respective opposite ends so as to be movable obliquely with respect to the moving direction of the first plate members with movement of the first plate members~~

a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member.

2. (currently amended) A collimator according to claim 1, wherein the ~~opposite ends~~ first end and the second end of each of the second plate members are supported by guide grooves formed obliquely with respect to the moving direction of the first plate members and pins engaged in the guide grooves.

3. (original) A collimator according to claim 1, wherein the pair of first plate members are movable independently of each other.

4. (currently amended) An X-ray irradiator comprising:

an X-ray tube; and

a collimator for collimating ~~X-ray~~ X-rays generated from the X-ray tube; tube, the collimator comprising:

a pair of first plate members ~~members~~, each first plate member having X-ray ~~absorbability~~, absorbability and movable in a direction parallel to ~~[[a]]~~ an end surface thereof, ~~and defining each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a spacing space between respective end faces opposed to each other the inner surfaces of the first plate members~~; and

~~a pair of second plate members each of which has X-ray absorbability, the second plate members, in order to block other X rays than the X-ray passing through the aperture, being connected at respective one ends by hinges to end portions of the pair of first plate members opposite to the mutually opposed end faces of the first plate members and being supported at respective opposite ends so as to be movable obliquely with respect to the moving direction of the first plate members with movement of the first plate members~~

a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member.

5. (currently amended) An X-ray irradiator according to claim 4, wherein the ~~opposite ends~~ first end and the second end of each of the second plate members are supported by guide grooves formed obliquely with respect to the moving direction of the first plate members and pins engaged in the guide grooves.

6. (original) An X-ray irradiator according to claim 4, wherein the pair of first plate members are movable independently of each other.

7. (currently amended) An X-ray apparatus comprising:

an X-ray tube;

a collimator for collimating ~~X-ray~~ X-rays emitted from the X-ray tube and applying the collimated X-ray to an object to be radiographed, the collimator comprising:

a pair of first plate members, each first plate member having X-ray absorbability and movable in a direction parallel to an end surface thereof, each first plate member comprising an inner surface such that an X-ray passing aperture is defined by a space between the inner surfaces of the first plate members; and

a pair of second plate members, each second plate member having X-ray absorbability and comprising a top surface and an opposite bottom surface, each second plate member top surface connected to an outer surface of a respective first plate member via a hinge in order to block X-rays other than the X-rays passing through the X-ray passing aperture, each second plate member supported on a first end and an opposite second end such that each second plate member is movable obliquely in relation to movement of the respective first plate member and such that each second plate member moves with movement of the respective first plate member; the X-ray apparatus further comprising a detector device for detecting the X-ray which has passed X-rays that pass through the object to be radiographed, ~~the collimator comprising:~~ radiographed.

~~a pair of first plate members, each having X-ray absorbability, movable in a direction parallel to a surface thereof, and defining an X-ray passing aperture by a spacing between respective end faces opposed to each other; and~~

~~a pair of second plate members each of which has X-ray absorbability, the second plate members, in order to block other X-rays than the X-ray passing through the aperture, being connected at respective one ends by hinges to end portions of the pair of first plate members opposite to the mutually opposed end faces of the first plate members and being supported at respective opposite ends so as to be movable obliquely with respect to the moving direction of the first plate members with movement of the first plate members.~~

8. (currently amended) An X-ray apparatus according to claim 7, wherein the ~~opposite ends~~ first end and the second end of each of the second plate members are supported by guide grooves formed obliquely with respect to the moving direction of the first plate members and pins engaged in the guide grooves.

9. (original) An X-ray apparatus according to claim 7, wherein the pair of first plate members are movable independently of each other.

10. (new) A collimator according to claim 1, further comprising a pair of arms and a pair of shafts, each arm coupling a first plate member to a respective shaft.

11. (new) A collimator according to claim 10, wherein each arm is threadedly engaged with the respective shaft.

12. (new) A collimator according to claim 1, further comprising a window plate positioned beneath the pair of second plate members, the window plate defining an aperture having at least one of a length that is greater than a width of the X-ray passing aperture and a length that is greater than a length of the X-ray passing aperture.

13. (new) A collimator according to claim 1, wherein the pair of first plate members are movable such that the X-ray passing aperture one of maintains a desired width and changes width as the pair of first plate members moves.

14. (new) An X-ray irradiator according to claim 4, wherein the collimator further comprises a pair of arms and a pair of shafts, each arm coupling a first plate member to a respective shaft.

15. (new) An X-ray irradiator according to claim 14, wherein each arm is threadedly engaged with the respective shaft.

16. (new) An X-ray irradiator according to claim 4, wherein the collimator further comprises a window plate positioned beneath the pair of second plate members, the window plate defining an aperture having at least one of a length that is greater than a width of the X-ray passing aperture and a length that is greater than a length of the X-ray passing aperture.

17. (new) An X-ray irradiator according to claim 4, wherein the pair of first plate members are movable such that the X-ray passing aperture one of maintains a desired width and changes width as the pair of first plate members moves.

18. (new) An X-ray apparatus according to claim 7, wherein the collimator further comprises a pair of arms and a pair of shafts, each arm coupling a first plate member to a respective shaft.

19. (new) An X-ray apparatus according to claim 18, wherein each arm is threadedly engaged with the respective shaft.

20. (new) An X-ray apparatus according to claim 7, wherein the collimator further comprises a window plate positioned beneath the pair of second plate members, the window plate defining an aperture having at least one of a length that is greater than a width of the X-ray passing aperture and a length that is greater than a length of the X-ray passing aperture.